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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
WEHBE, ANNE MARIE SABRINA

ART UNIT	PAPER NUMBER
1633	

DATE MAILED: 06/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/656,623	KUCHERLAPATI ET AL.	
	Examiner	Art Unit	
	Anne Marie S. Wehbe	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,7-9,11-13,15-21,23,24,26,34-39 and 46-99* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1, 3-5, 7-9, 11-13, 15-21, 23-24, 26, 34-39, and 46-99* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's preliminary amendment filed on 10/2/03 canceled claims 2, 6, 10, 14, 22, 25, 27-33, and 40-45, and added new claims 46-99. Claims 1, 3-5, 7-9, 11-13, 15-21, 23-24, 26, 34-39, and 46-99 are therefore pending in the instant application.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 3, drawn to methods of producing an immunoglobulin comprising administering an antigen to a nonhuman animal and recovering said immunoglobulin by isolating B cells, immortalizing the B cells, and recovering the immunoglobulin from the immortalized B cells, classified in classes 424 and 435, subclasses 184.1 and 70.21.

II. Claims 1, and 3-4, drawn to methods of producing an immunoglobulin comprising administering an antigen to a nonhuman animal and recovering said immunoglobulin by isolating B cells, immortalizing the B cells, recovering genes encoding the variable region of the immunoglobulin from the immortalized cells, expressing the genes to produce immunoglobulin and recovering said immunoglobulin, classified in classes 424 and 435, subclasses 184.1 and 69.1.

III. Claims 5, 9, 13, 21, 35-36, and 62, drawn to recombinant DNA molecules comprising a nucleotide sequence encoding an immunoglobulin and vectors

comprising the recombinant DNA, classified in class 536 and 435, subclasses 23.53 and 320.1.

IV Claims 7, 11, 15, 23, 37, and 61, drawn to a cell modified to contain a recombinant DNA molecule comprising a nucleotide sequence encoding an immunoglobulin, classified in class 435, subclass 326.

V. Claims 8, 12, 16, 24, and 38, drawn to a method to produce an antibody comprising culturing a cell modified to contain a recombinant DNA molecule comprising a nucleotide sequence encoding an immunoglobulin, classified in class 435, subclass 69.1.

VI. Claim 17, drawn to an immortalized B cell which secretes an immunoglobulin with a human variable region, classified in class 435, subclass 346.

VII. Claim 18, drawn to methods of producing an immunoglobulin by culturing an immortalized B cell which secretes an immunoglobulin with a human variable region, classified in class 435, subclass 70.21.

VIII. Claims 19-20, 26, 34, 46-60, and 72, drawn to an isolated human antibody or immunoglobulin with a human variable region specific for an antigen, classified in class 530, subclass 387.1

IX. Claim 39, drawn to the use of an antibody for treating an autoimmune disease, classified in class 424, subclass 130.1.

X. Claims 64-71, drawn to methods of producing a human antibody that binds to and modulates the activity of a leukocyte marker comprising administering the marker to a mouse, screening a mouse for human antibody that binds to the marker,

isolating antibody from a mouse that has the human antibody and determining whether the antibody modulates the activity of the leukocyte marker, classified in classes 424 and 435, subclasses 184.1 and 7.1.

XI. Claims 73-84, drawn to methods of modulating the activity of a leukocyte marker comprising contacting a cell with an antibody that binds to an modulates the activity of the leukocyte marker, classified in class 424, subclass 130.1.

XII. Claims 85-99, drawn to methods of detecting the presence of a leukocyte marker comprising contacting a sample or cell with an antibody, classified in class 435, subclass 7.1.

The inventions are distinct, each from the other because of the following reasons:

1) Inventions I and II are directed to related methods. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j). In the instant case, the methods of invention II include isolating genes encoding human variable regions and using those genes to produce a modified cell that can produce an antibody. These steps in invention II render the methods of inventions I and II mutually exclusive, as the methods are not capable of use together. Further, the additional steps in method II have substantially different functions and use different reagents and techniques not required or useful in the methods of invention I. As such, the search for each invention is not co-

extensive and thus it would place an undue burden on the examiner to search and examine both inventions together.

2) Inventions I and inventions III-V, and IX-XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are directed to methods and products with are not capable of use together and have substantially different properties and modes of operation. Specifically, the products of inventions III-V are not useful in the methods of invention I and have substantially different properties than an isolated antibody. Further, the methods of invention IX are the use of an antibody as a therapeutic which is not part of the method of isolating an antibody of invention I. In addition, the methods of inventions X-XII involve substantially different method steps and use different reagents with different modes of operation. Therefore, for the reasons set forth above, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

3) Invention II and inventions III-IV are related in part as the methods of invention II include a step of recovering genes encoding an immunoglobulin. However, the recombinant DNA molecules and vectors of invention III and recombinant cells of IV do not require the methods of invention II as the DNA do not require being isolated from immortalized B cells, as they can be isolated from non-immortalized B cells, or can be synthesized *in vitro*. Further, the methods of invention II are directed to producing antibody not genes or cells comprising an antibody and thus produce products materially different than the recombinant genes of invention III or cells of invention IV. Therefore, for the reasons set forth above, the search for each

invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

4) Inventions III and inventions IV-XII are patentably distinct in that the recombinant DNA molecules of invention III are structurally, chemically, and functionally different than the products of inventions IV, VI, VIII, and IX. Further, the recombinant DNA molecules have substantially different uses than transfecting cells and producing antibodies such as the use of the molecules as probes in DNA binding assays. In addition, the molecules of invention III are not required for the methods of inventions VII and X-XII. Therefore, for the reasons set forth above, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

5) Inventions IV and V are related as product and process of use. The inventions can be shown to be distinct if **either** or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the products of invention IV can be used in materially different processes, such as the use of the cells in methods to produce hybridomas, or the use of the cells as a source of DNA encoding an immunoglobulin. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine both inventions together.

6) Inventions I and II and VI-VIII are related in part as the methods of inventions I and II include a step of culturing an immortalized B cell. However, each invention is patentably distinct in that neither the immortalized B cells of invention VI nor the isolated antibodies of invention

VIII require the methods of inventions I or II as the antibodies do not require being isolated from immortalized B cells, as they can be isolated from non-immortalized B cells, or can be synthesized *in vitro*. Further, the immortalized B cells can be made by methods which do not require the immunization of the animal, such as transfecting B cells in vitro with DNA encoding an immunoglobulin and then immortalizing the B cell. In addition, while the method of invention I includes the step of culturing immortalized B cells to produce antibody, the methods of inventions I and II include additional materially different steps not required for the methods of invention VII. Therefore, for the reasons set forth above, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

7) Inventions II and inventions XI-XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are directed to methods not capable of use together and have substantially different properties and modes of operation. Specifically, the methods of invention IX are the use of an antibody as a therapeutic which is not part of the method of isolating an antibody of invention II. In addition, the methods of inventions X-XII involve substantially different method steps and use different reagents with different modes of operation. Therefore, for the reasons set forth above, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

8) Inventions IV and V are patentably distinct from inventions VI-VII in that a cell modified to contain a recombinant DNA is structurally and functionally different from an

immortalized B cell expressing an antibody. Further, as the products are materially different, the methods of using the products are mutually exclusive and do not overlap in scope. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

9) Inventions VI-VII are related as product and process of use. The inventions can be shown to be distinct if **either** or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the products of invention VI can be used in materially different processes, such as the use of the use of the cells as a source of DNA encoding an immunoglobulin. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine both inventions together.

10) Invention VIII is patentably distinct from inventions IV and V in that the products of each invention are materially different in physical, chemical, structural, and functional properties, and are made using different techniques and reagents. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

11) Invention VIII and inventions V, VII, and X are related as process of making and product made. The inventions are distinct if **either** or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the antibodies of invention VIII can be made using numerous

methods, such as synthesizing the antibodies in vitro, or by isolating circulating antibodies from the blood, both of which processes are materially different form the methods of invention V, VII and X. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

12) Inventions VIII and inventions IX, and XI-XII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the antibodies of invention VIII can be used in a variety of methods including methods to treat disease, or in *in vitro* binding assays such as ELISAs or western blots. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

13) Inventions IX-XII are patentably distinct in the each of the methods of inventions IX-XII involves the use of distinct method steps not shared or useful with the other methods and further utilizes reagents not shared or useful with the other methods. As such, the search for each invention is not co-extensive and thus it would place an undue burden on the examiner to search and examine all inventions together.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, different classification, and different search requirements, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species: see claims 20, 24, 26, 38, 46, 64, 65, 73, 83-85, and 93 which all list numerous antigens. Claim 20 for example lists close to 200 different antigens. The species are independent or distinct because each antigen is a distinct protein with different structure and function. It is further noted antibodies having specificity for each of these antibodies would also be distinct proteins with materially different structure and function. As such, the search for each antigen, and antibodies specific for each antigen is not coextensive and thus it would place an undue burden on the examiner to search and examine all antigens together.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species and invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication from the examiner should be directed to Anne Marie S. Wehbé, Ph.D., whose telephone number is (571) 272-0737. If the examiner is not available, the examiner's supervisor, Dave Nguyen, can be reached at (571) 272-0731. For all official communications, **the new technology center fax number is (571) 273-8300**. Please note

that all official communications and responses sent by fax must be directed to the technology center fax number. For informal, non-official communications only, the examiner's direct fax number is (571) 273-0737. For any inquiry of a general nature, please call (571) 272-0547.

The applicant can also consult the USPTO's Patent Application Information Retrieval system (PAIR) on the internet for patent application status and history information, and for electronic images of applications. For questions or problems related to PAIR, please call the USPTO Patent Electronic Business Center (Patent EBC) toll free at 1-866-217-9197. Representatives are available daily from 6am to midnight (EST). When calling please have your application serial number or patent number available. For all other customer support, please call the USPTO call center (UCC) at 1-800-786-9199.

Dr. A.M.S. Wehbé

VNE M. WEHBE' PH.D
RIMARY EXAMINER